

Collaborative Science and Technology Initiatives for Smart Growth and Sustainability in Puerto Rico

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Keywords: smart growth, sustainability, land use policy, urban sprawl, indicators

There is a pressing environmental issue on the island of Puerto Rico (PR)—unsustainable land use due to unplanned suburban growth. As a relatively small island, land is a scarce and highly valuable resource. Measuring 8,874 square kilometers, with a population density of 429 inhabitants per square kilometer (one of the highest in the world), PR is running out of space. In 1999, the UMET obtained a Sustainable Development Challenge Grant from the U.S. Environmental Protection Agency (U.S. EPA) for a project entitled “Puerto Rico’s Road to Smart Growth.” Using geographic information system and satellite images plus other methods of research, this project facilitated the study and dissemination of crucial information to advance the state of knowledge about urban sprawl. The most staggering result of the study was the revelation that, if urban sprawl continues at the same rate it had in the last five decades, the whole island of Puerto Rico would become a suburban megalopolis within 75 years, the life span of one generation. Copies of the project’s executive summary were distributed to leaders of the public, private, and community sectors. The success of the project helped in the approval of Law #212 for the Revitalization of Urban Centers and Law #550 to create the Land Use Plan Office under the PR Planning Board, among other legislative initiatives. Also, the UMET instituted the Center for Sustainable Development Studies (CSDS) under the School of Environmental Affairs to continue research and education on this pressing issue. In March 2005, the CSDS will start a new research project with the U.S. EPA titled Sustainability of Land Use in Puerto Rico. It will focus on preventive approaches to strengthen and continue PR’s Road to Smart Growth’s efforts, which was designed to diagnose and create awareness. The U.S. EPA’s funds in this new project will be used to develop a geographic information system (GIS)-based framework to establish a benchmark and measure the impact of land use trends of urban growth projects on the quality and availability of land, ecosystems, and water. Partners in this new project are the Planning Board and its Land Use Plan Office, Environmental Quality Board, Department of Agriculture, and Department of Natural and Environmental Resources (PR government). Also participating are the local offices of the U.S. Forest Service, Natural Resources Conservation Service of the U.S. Department of Agriculture, and The Nature Conservancy.